US009166425B1

(12) **United States Patent**
White

(10) **Patent No.: US 9,166,425 B1**
(45) **Date of Patent: Oct. 20, 2015**

(54) **BATTERY CHARGING STORAGE DEVICE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 307 days.

(21) Appl. No.: **13/934,948**

(22) Filed: **Jul. 3, 2013**

(51) **Int. Cl.**
H02J 7/00 (2006.01)

(52) **U.S. Cl.**
CPC ***H02J 7/0042*** (2013.01); *H02J 7/0003* (2013.01)

(58) **Field of Classification Search**
CPC Y02E 60/12; H02J 7/0042; H02J 7/0003; H02J 7/0044; H02J 7/0045; H01M 10/46; H01M 10/44; H01M 2/1022; H01M 2220/30; H01M 2/105; H01M 2/10; H01M 2/12; H01M 2/1094; H01R 13/6675; B65D 85/00; B65D 85/88; B65D 73/00; B65D 75/24; B65D 2585/88; A45C 11/00; A45C 13/02; A45C 3/00
USPC 320/110, 116, 107, 113; 429/96, 99, 429/100; D13/103, 107, 119; D3/294, 295, D3/284, 313, 283, 273, 274, 276, 103
See application file for complete search history.

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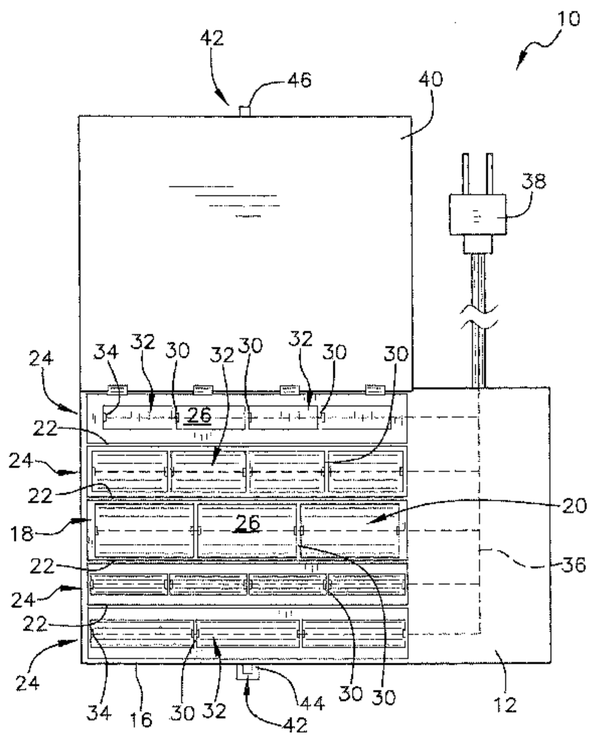
(57) **ABSTRACT**

A battery charging storage device charges and stores batteries in a compact lockable case. The device includes a housing having a bottom wall and a perimeter wall defining an interior space. A medial wall extends through the interior space of the housing. Straight interior walls extend upwardly from the medial wall defining a plurality of rows in the interior space. A top surface of the medial wall conforms to an exterior shape of a plurality batteries positioned end to end within each row in the interior space. Charging walls extend across associated rows defining a plurality of individual compartments. Contact sets are coupled to the charging walls with each contact set corresponding to an associated one of the compartments in the interior space. Wiring couples each contact set to a plug electrically wherein each contact sets is configured to provide electrical current to a battery positioned in the associated compartment.

6 Claims, 5 Drawing Sheets



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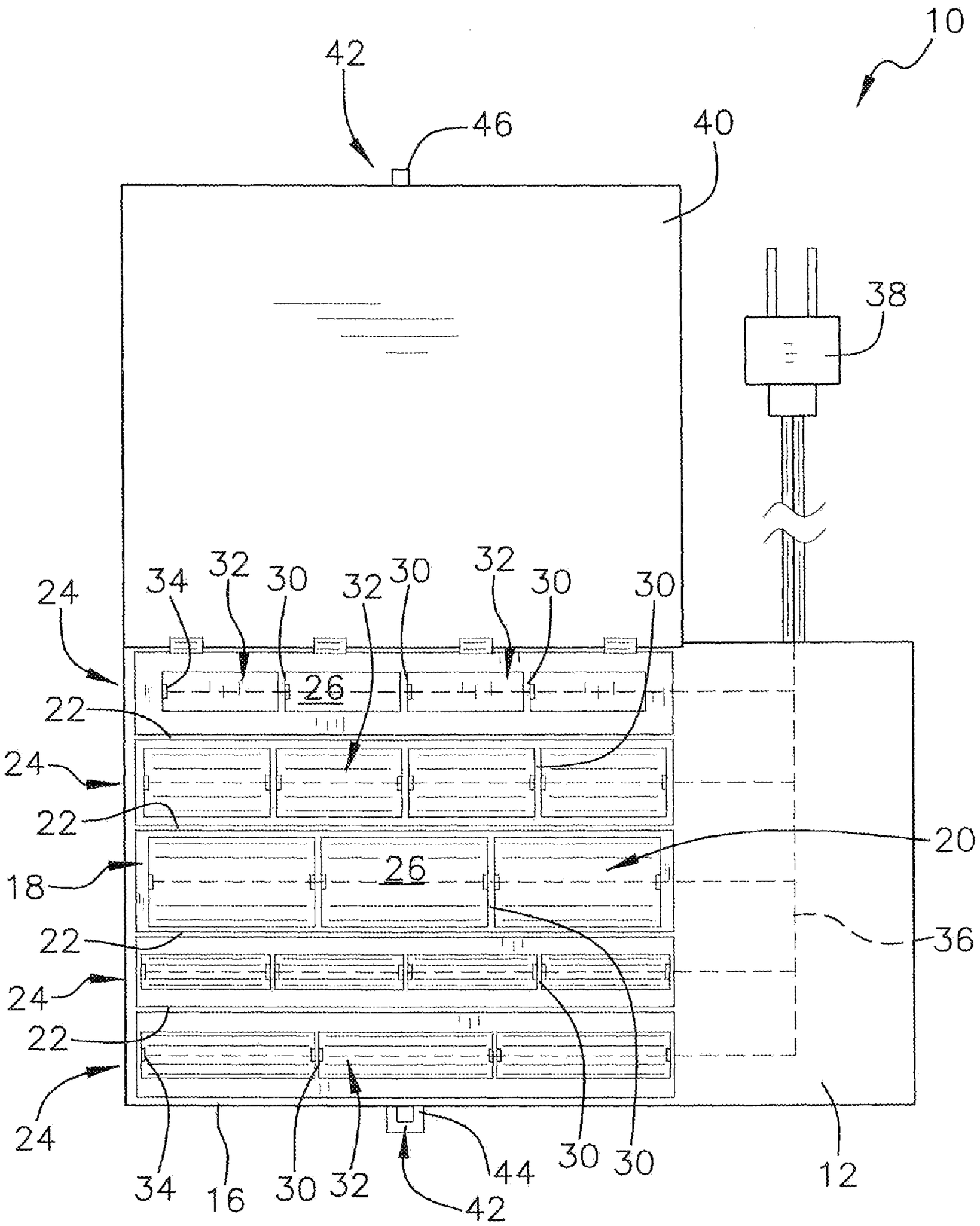
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FIG. 1

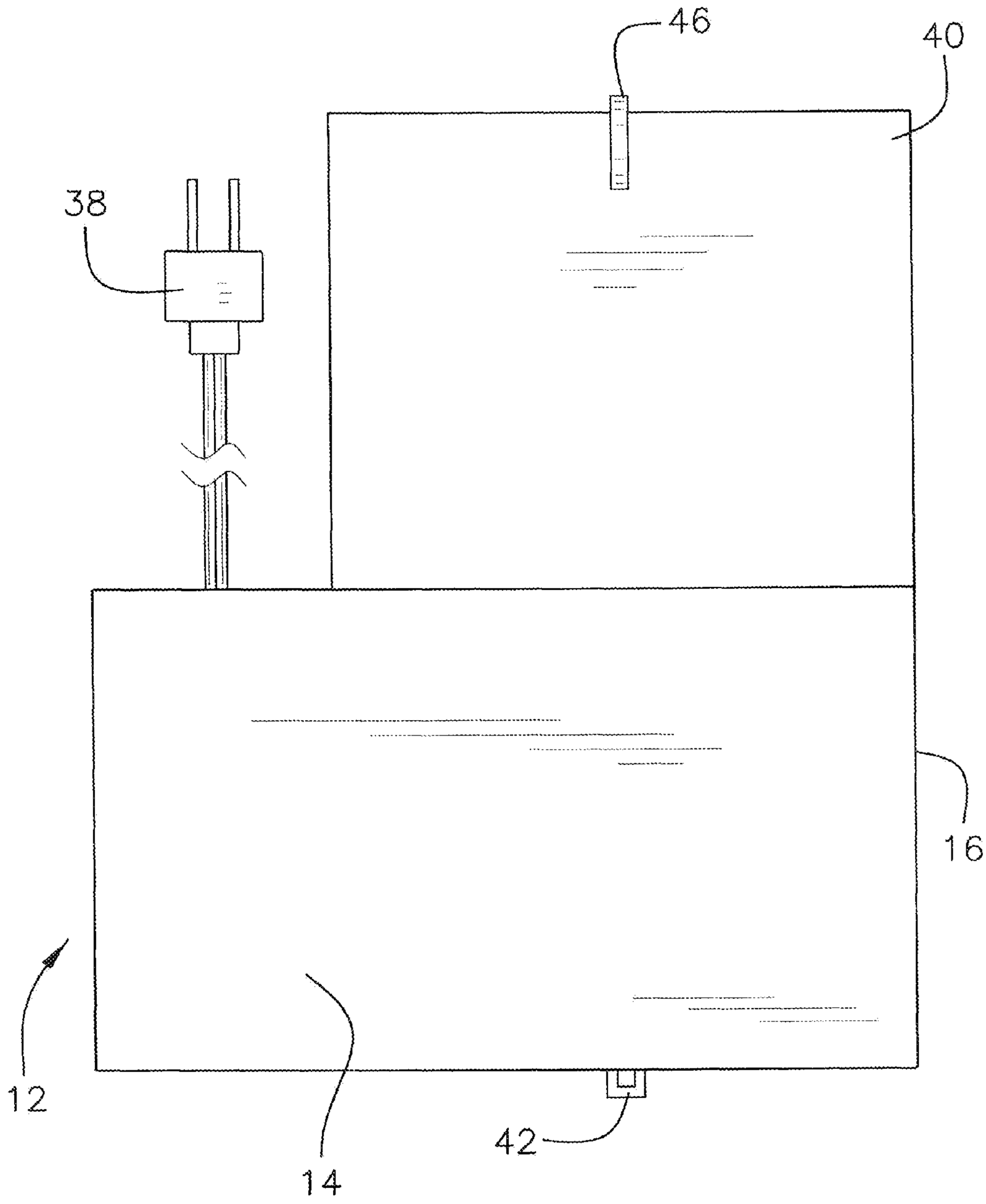

FIG. 2

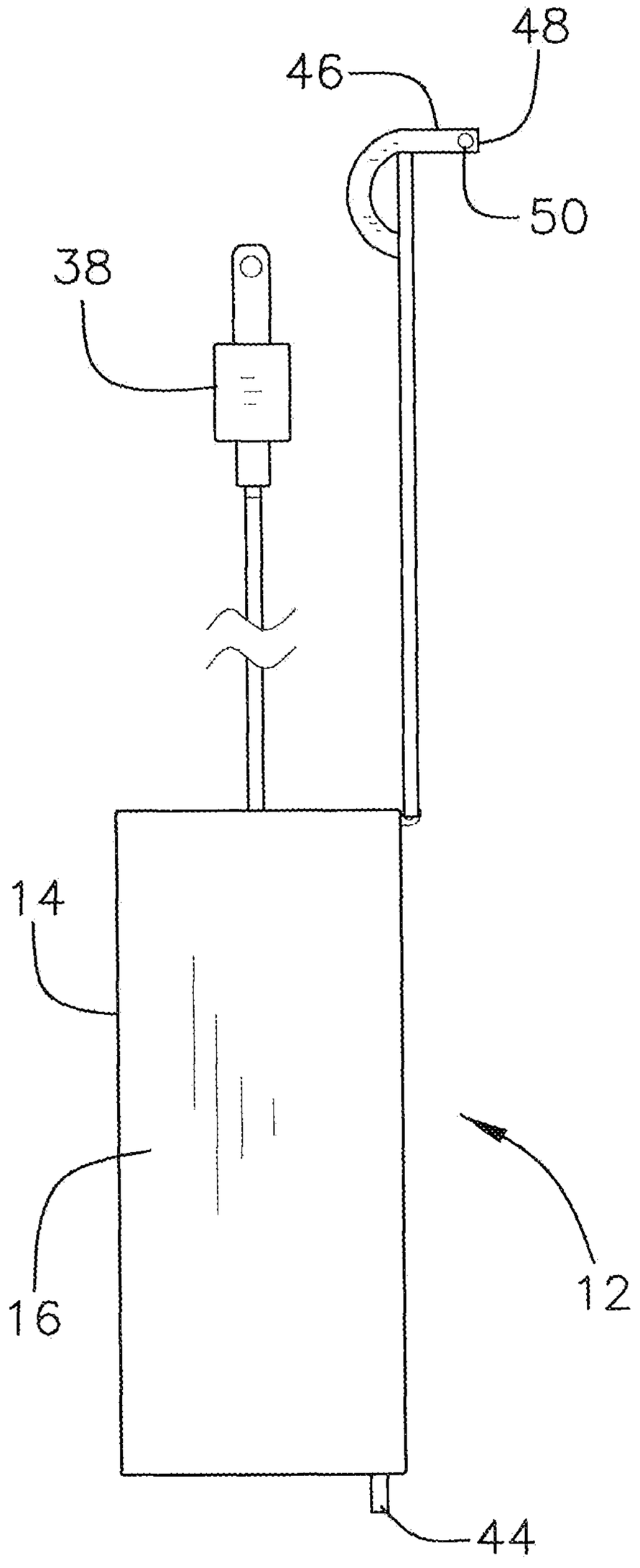

FIG. 3

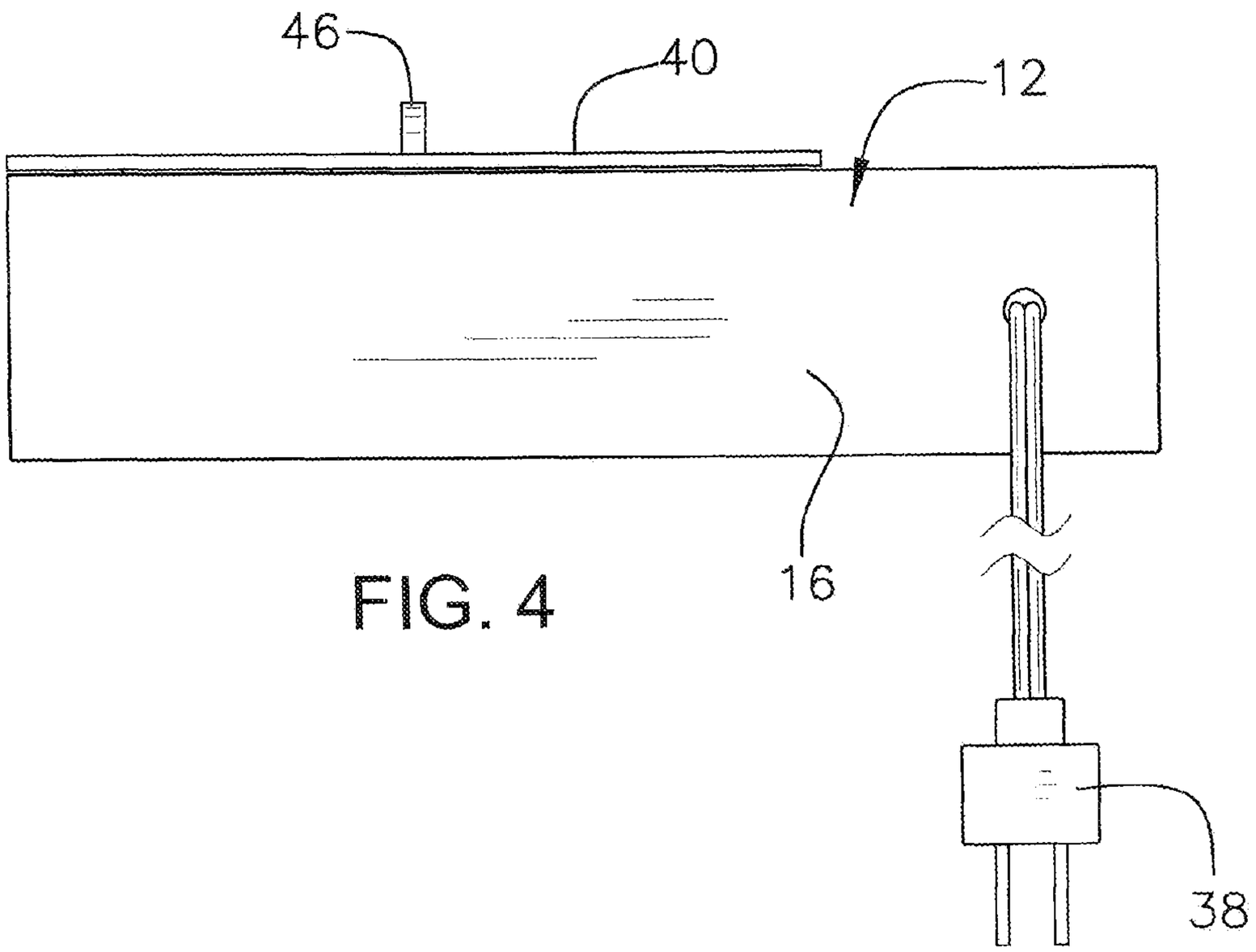

FIG. 4

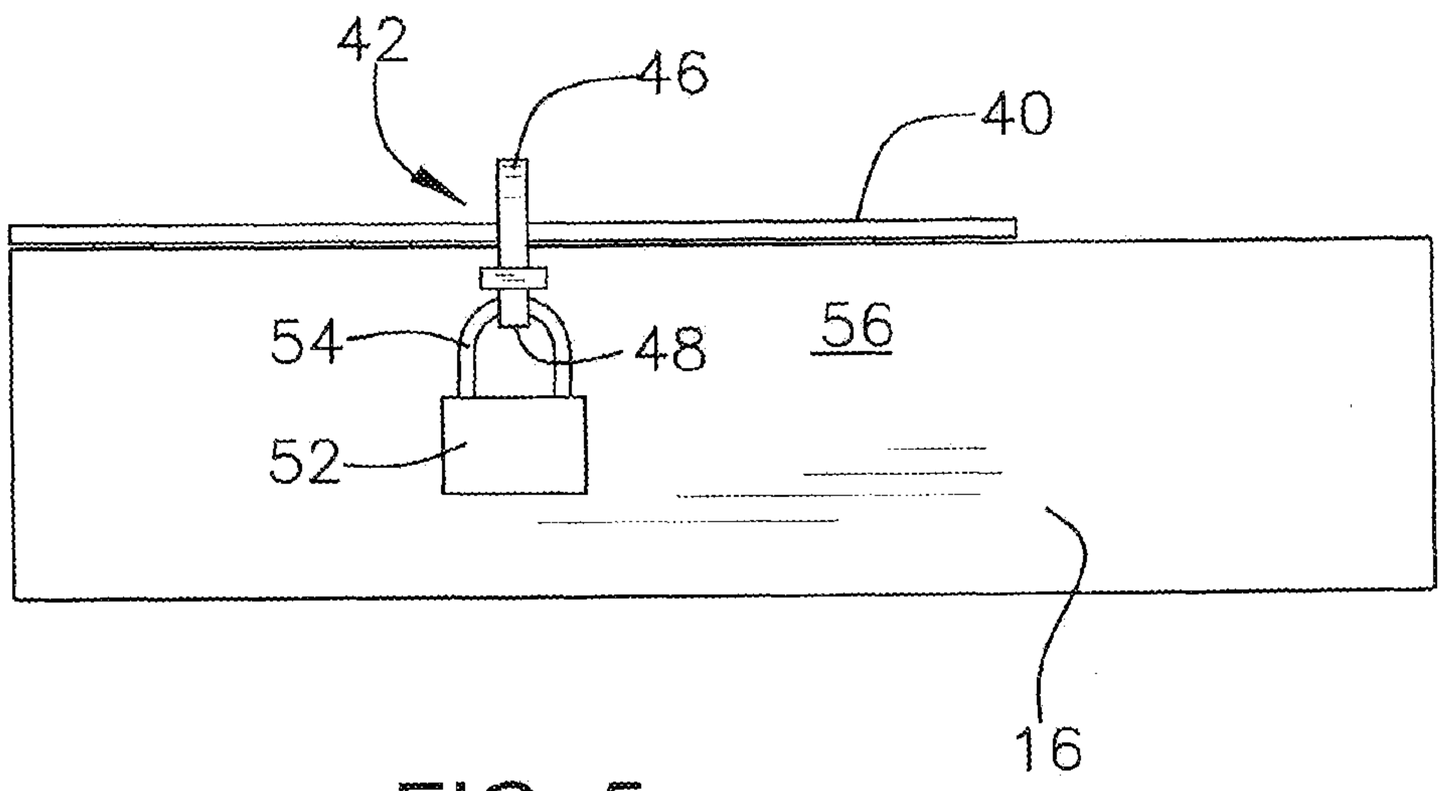

FIG. 5

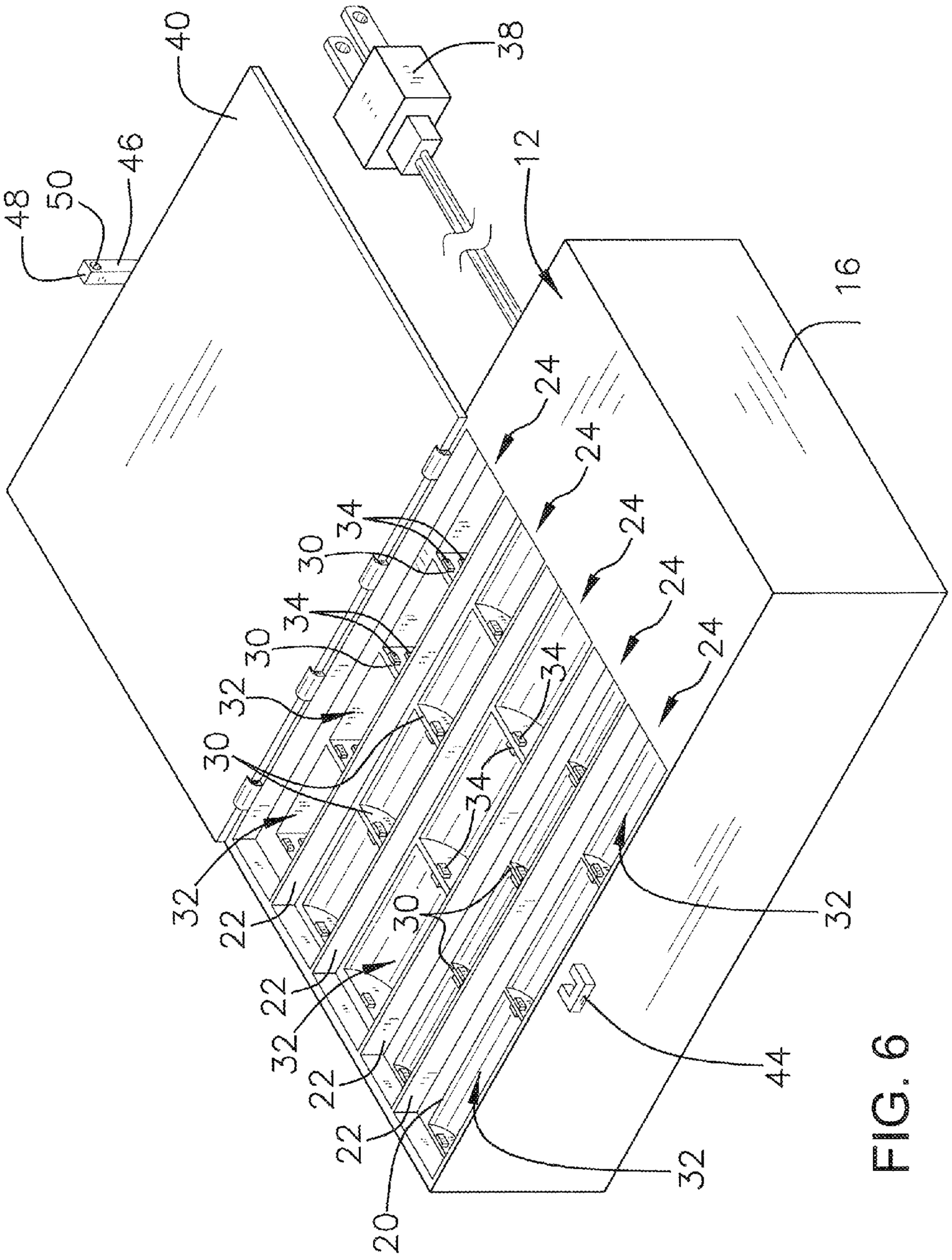
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FIG. 6

BATTERY CHARGING STORAGE DEVICE

BACKGROUND OF THE DISCLOSURE

Field of the Disclosure

The disclosure relates to storage devices and more particularly pertains to a new storage device for charging and storing batteries in a compact easily transported lockable case.

SUMMARY OF THE DISCLOSURE

An embodiment of the disclosure meets the needs presented above by generally comprising a housing having a bottom wall and a perimeter wall defining an interior space. A medial wall extends through the interior space of the housing. Straight interior walls extend upwardly from the medial wall defining a plurality of rows in the interior space. A top surface of the medial wall conforms to an exterior shape of a plurality batteries positioned end to end within each row in the interior space. Charging walls extend across associated rows defining a plurality of individual compartments. Contact sets are coupled to the charging walls with each contact set corresponding to an associated one of the compartments in the interior space. Wiring couples each contact set to a plug electrically wherein each contact sets is configured to provide electrical current to a battery positioned in the associated compartment.

There has thus been outlined, rather broadly, the more important features of the disclosure in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the disclosure that will be described hereinafter and which will form the subject matter of the claims appended hereto.

The objects of the disclosure, along with the various features of novelty which characterize the disclosure, are pointed out with particularity in the claims annexed to and forming a part of this disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

The disclosure will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

FIG. **1** is a top view of a battery charging storage device according to an embodiment of the disclosure.

FIG. **2** is a bottom view of an embodiment of the disclosure.

FIG. **3** is a side view of an embodiment of the disclosure.

FIG. **4** is a back view of an embodiment of the disclosure.

FIG. **5** is a front view of an embodiment of the disclosure.

FIG. **6** is a top front side perspective view of an embodiment of the disclosure.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the drawings, and in particular to FIGS. **1** through **6** thereof, a new storage device embodying the principles and concepts of an embodiment of the disclosure and generally designated by the reference numeral **10** will be described.

As best illustrated in FIGS. **1** through **6**, the battery charging storage device **10** generally comprises a housing **12** having a bottom wall **14** and a perimeter wall **16** coupled to and extending upwardly from the bottom wall **12**. The bottom wall **14** and the perimeter wall **16** define an interior space **18** of the housing **12**. A medial wall **20** is coupled to the housing **12** extending through the interior space **18** of the housing **12**. Each of a plurality of straight interior walls **22** extends upwardly from the medial wall **20** and across the interior space **18** in parallel relationship to each other interior wall **22**. Thus, the straight interior walls **22** define a plurality of rows **24** in the interior space **18**.

A top surface **26** of the medial wall **20** may be curved along a longitudinal length of associated rows **24** such that the top surface **26** is shaped to conform to a curved exterior shape of a plurality of cylindrical batteries positioned end to end within each associated row **24** in the interior space **18**. Each row **24** extending through the interior space **18** may be configured for holding an associated battery size unique to the row **24**. The top surface **26** of the medial wall **20** may also include a flat portion extending along an associated one of the rows **24** to accommodate holding a row of batteries having a planar exterior surface.

Each of a plurality of charging walls **30** is positioned in and extends across an associated row **24** in the interior space **18** defining a plurality of individual compartments **32** in the interior space **18**. Each of a plurality of contact sets **34** is coupled to an associated one of the charging walls **30** such that each contact set **34** corresponds to an associated one of the compartments **32** in the interior space **18**. Wiring **36** is coupled to each contact set **34**. A plug **38** is electrically coupled to the wiring **36** wherein each contact sets **34** provides electrical current to a battery positioned in the associated compartment **32**. Thus, rechargeable batteries may be stored and charged while in the compartments **32**.

A lid **40** is coupled to the housing **12**. The lid may comprise a partial face of the housing **12** or a full face of the housing **12**. The lid **40** encloses the interior space **18** in combination with the housing **12** when the lid **40** is positioned in a closed position. A latch **42** is provided having a loop section **44** coupled to an exterior surface **56** of the perimeter wall **16** of the housing **12**. The latch **42** further has an elongated bar section **46** coupled to and extending from the lid **40**. The bar may have a rectangular cross-sectional shape transverse to a longitudinal axis of the bar section **46**. A distal end **48** of the bar section **46** extends through the loop section **44** of the latch **42** when the lid **40** is in the closed position. An aperture **50** extends through the bar section **46** proximate the distal end **48** of the bar section **46**. A lock **52** having a shank **54** is extendable through the aperture **50** wherein the shank **54** inhibits the bar section **46** from being removed from the loop section **44**. Thus, the housing **12** may be locked to prevent unauthorized access to batteries in the interior space **18**. Locking of the lid **40** covering the housing **12** further permits easy transport of the housing **12** while holding batteries.

In use, batteries are positioned in the compartments **32** and the plug **38** coupled to an electrical source to charge batteries held in the housing **12**. The lid **40** may be locked to prevent theft of individual batteries from the housing **12** while the batteries are charged. The lid **40** may also be left in the closed position and locked into place to facilitate carrying of the housing **12** to transport batteries as desired.

With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of an embodiment enabled by the disclosure, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and

described in the specification are intended to be encompassed by an embodiment of the disclosure.

Therefore, the foregoing is considered as illustrative only of the principles of the disclosure. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the disclosure to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the disclosure. In this patent document, the word "comprising" is used in its non-limiting sense to mean that items following the word are included, but items not specifically mentioned are not excluded. A reference to an element by the indefinite article "a" does not exclude the possibility that more than one of the element is present, unless the context clearly requires that there be only one of the elements.

I claim:

1. A battery charging storage device comprising:

a housing having a bottom wall, a perimeter wall coupled to and extending upwardly from said bottom wall, said bottom wall and said perimeter wall defining an interior space of said housing;

a medial wall coupled to said housing, said medial wall extending through said interior space of said housing;

a plurality of straight interior walls extending upwardly from said medial wall and across said interior space of said housing wherein said straight interior walls define a plurality of rows in said interior space;

a top surface of said medial wall being shaped to conform to an exterior shape of a plurality batteries positioned end to end within each said row in said interior space;

a plurality of charging walls, each charging wall being positioned in and extending across an associated row in said interior space defining a plurality of individual compartments in said interior space;

a plurality of contact sets, each contact set being coupled to an associated one of said charging walls, each contact set corresponding to an associated one of said compartments in said interior space;

wiring coupled to each said contact set; and

a plug electrically coupled to said wiring wherein each said contact sets is configured to provide electrical current to a battery positioned in said associated compartment.

2. The device of claim **1**, further comprising a lid coupled to said housing, said lid enclosing said interior space with said housing when said lid is positioned in a closed position.

3. The device of claim **2**, further comprising a latch having a loop section coupled to an exterior surface of said perimeter wall of said housing, said latch having a bar section coupled to and extending from said lid, a distal end of said bar section extending through said loop section of said latch when said lid is in said closed position.

4. The device of claim **3**, further comprising:

an aperture extending through said bar section proximate said distal end of said bar section; and

a lock having a shank extendable through said aperture wherein said shank inhibits said bar section from being removed from said loop section.

5. The device of claim **1**, further comprising each said row extending through said interior space being configured for holding an associated battery size unique to said row.

6. A battery charging storage device comprising:

a housing having a bottom wall, a perimeter wall coupled to and extending upwardly from said bottom wall, said bottom wall and said perimeter wall defining an interior space of said housing;

a medial will coupled to said housing, said medial wall extending through said interior space of said housing;

a plurality of straight interior walls extending upwardly from said medial wall and across said interior space of said housing wherein said straight interior walls define a plurality of rows in said interior space;

a top surface of said medial wall being shaped to conform to an exterior shape of a plurality batteries positioned end to end within each said row in said interior space, each said row extending through said interior space being configured for holding an associated battery size unique to said row;

a plurality of charging walls, each charging wall being positioned in and extending across an associated row in said interior space defining a plurality of individual compartments in said interior space;

a plurality of contact sets, each contact set being coupled to an associated one of said charging walls, each contact set corresponding to an associated one of said compartments in said interior space;

wiring coupled to each said contact set;

a plug electrically coupled to said wiring wherein each said contact sets is configured to provide electrical current to a battery positioned in said associated compartment;

a lid coupled to said housing, said lid enclosing said interior space with said housing when said lid is positioned in a closed position;

a latch having a loop section coupled to an exterior surface of said perimeter wall of said housing, said latch having a bar section coupled to and extending from said lid, a distal end of said bar section extending through said loop section of said latch when said lid is in said closed position;

an aperture extending through said bar section proximate said distal end of said bar section; and

a lock having a shank extendable through said aperture wherein said shank inhibits said bar section from being removed from said loop section.

* * * * *